An Overview of Mobile Assisted Language Learning (MALL)

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Abstract- A literature survey of Mobile Assisted Language Learning (MALL) has been undertaken. Specific academic examples are given. Various types of MALL software are covered including their advantages and limitations. The research results show that use of MALL software gives the learner convenience to study at their own pace and consequently improve their language retention and learning.

I. INTRODUCTION

"Mobile-assisted language learning (MALL)" is regarded as one of the most pertinent application areas [1,2]. Numerous papers may be found on second and foreign language mobile learning [1,2,3,4,5,6,7]. The papers highlight different facets of language learning and their corresponding efficacy based on explorative studies. Mobile learning can accommodate people with different learning styles due to the devices' ability to be used anytime, in any place, at any pace. Thus the overall conclusive hypotheses show that the use of mobile technology does indeed enhance the acquisition of the second language [8].

II. LITERATURE REVIEW

Contemporaneous studies and practical mobile technology based projects using mobile devices such as iPhones have concentrated on informal and formal language learning [9, 10, 11, 12]. These studies found that their use clusters around learning vocabulary and grammar, story reading and practising pronunciation. This is achieved by programs requiring repetition and drills. However, no formal pedagogic theory of mobile language learning exists to date [13] (2006). The trend in advances in mobile technology does show the mobile language learning environment being highly ubiquitous, interactive and convenient. Most of the literature has concentrated on improving the proficiency of the language learners of varying linguistic abilities without stipulating a model to be adopted in the "design [of] authentic audio/visual or print materials to be used for language learning based on mobile phone technology" [9].

Mobile phones being relatively a recent addition in the field of communication technology have opened up new avenues for language learning. Expanding the academic vocabulary for university undergraduates was one recent initiative undertaken by an Iranian university [14]. This study investigated the use of using SMS for vocabulary learning and its retention using 45 freshman students with upper intermediate proficiency level, lasting 16 weeks. "The participants of the experimental group (N = 28) were taught 320 head words from the Academic Word List (Coxhead, 2000) via SMS. During the same period of time the participants of the control group (N = 17) were taught the same words by using dictionary." Testing both groups employing an independent t-test did show both groups had improved in the post test. No significance difference could be seen between both groups in the post-test. However, "the result of the delayed post-test showed that SMS had more significant effect on vocabulary retention compared to using dictionary, and the experimental group

outperformed the control group" [14]. The study showed that using SMS helped in the retention of the vocabulary in long-term memory. Mobile learning also has a great potential for use in less industrialized nations [15], due to its versatility, low cost and ubiquity and thus appears to be the most practical way of currently delivering m-learning. The study found that using educational games, especially in a non-formal setting effectively motivates language learners, even mature Iranian government employees for lifelong learning [15].

The TOEIC MALL project [16] looked at utilizing MALL with existing compulsory language skills for listening and reading tests in order to improve the scores of Kyoto University Foreign Studies freshmen by the development of a new module. This module was to be used outside the classroom by the students themselves independently of the teacher, thus transferring the responsibility of learning fully onto the shoulders of the students. Graded steps to full autonomous self-learning were achieved by having the learner utilize a five step learning module. The learning platform utilized was the Nintendo DS mobile device and its software, DS More Training for the TOEIC Listening and Reading Tests. It was envisioned that the popularity of the device would also be an additional motivating factor.

It appears rather strange that voice interaction does not play a part in MALL research [17]. The exceptions to this, however, are in the learning and teaching of the Celtic language, Irish as a Second Language (ISL), as reported by Clooney & Keogh [18] (2007), at the secondary level for five week pilot study. The system used mobile phones and ipods to log onto a system to respond to a set of questions. The responses were saved in the ".wav" file format. These could be then marked either in real time or downloaded as a podcast to be marked offline by the teacher. Laptops were provided to download model responses as well as engage in monitored chat sessions. In this case, mobile phones used voice rather than text input to support formal learner assessment. [17]

Another exception reported was in a research conducted by Stanford University, where native speakers of the target language (L2) coached learners via mobile phone. Problems with scheduling led to its abandonment. A second activity requiring automatic voice-controlled grammar and vocabulary quizzes to overcome the scheduling problem had to also to be abandoned due to software voice recognition problems. The mobile device was used to primarily deliver materials to which the learner could respond "rather than receive passively".

The Praxis learning podcast line [19] is a platform providing a context-driven, social-based and software-enhanced website for learning foreign languages. It has recently been developing mobile phone applications to teach phonetics using multimedia functionality. A study in 2009 by Comas-Quinn, Mardomingo and Valentine [20] in Spain looked at how students "construct meaning through informal interaction with [the] target culture via mobile blogging". The study concluded that the students' sharing of their blogs, helped mutual interactivity and engender an informal learning community. A recent study [21] (2010) of the experiences of Chinese students to Britain found that mobile group blogs could help in understanding the target language and culture more effectively. These mobile blogs could also help future potential students in China in the preparation for language learning and understanding the idiosyncrasies of the British culture. Wishart [22] (2009) concluded that blogging could also be effective in "teacher trainees' reflections on teaching".

Many language applications now exist for both the iPhone and Android operating system platforms [23]. Some of these software offer traditional features like "flashcard programs, dual language dictionaries, and phrase books". Their sophistication and quality does vary, however. Newer hardware and software does offer added features for language learning, such as hyperlinked, multimedia phrase books, drag-and-drop trip planners

('Lonely Planet' application). More advanced systems even offer augmented reality where pointing with the phone's camera can have the image or video overlaid with additional local site information, such as background history. Vocabulary programs continue to develop in their sophistication. One such program, eStroke, devised to help learn the strokes that make up the Chinese characters also has full multimedia features such as animation, dual language libraries and extensive quizzes. An alternative software for learning Chinese known as Pleco, starts of as a free software but adds extra paid-for features such as optical character recognition. ChinesePod is another application that offers a variety of tools to work with podcast [23].

III. LIMITATIONS AND DISADVANTAGES

Mobile technologies provide numerous advantages: small size, user-friendliness flexibility and low cost - researchers continue to explore how to exploit mobile technology in language learning [24]. However, there also exist disadvantages, such as small screen size (leading to reading difficulties), storage capacity limitations, full multimedia limitations, limited presentation of graphics [25] (Albers & Kim, 2001) and dependence on networks that may not always provide very high transmission capacity and which may be subject to noise and outages. The design of the phone may also make it difficult for educational usage. Those phones with feature rich functionalities may be too expensive for most students also. Despite these pitfalls, Thornton and Houser [26] (2005) show that mobile devices can indeed be effective tools for delivering language learning materials to the students. Thus, teachers should be aware of what kinds of tools learners actually possess and then adaptively deliver the learning resources to the mobiles [27]. Stockwell [18] demonstrated that students who found tasks taking longer to perform on their mobile devices indicated quite early on that they would be doing their tasks on their PCs because of the cost of Internet access, the screen size, and the keypad [28].

IV. CONCLUSION

Mobile Assisted Language Learning (MALL) continues to show promising results in academic research studies in the literature. MALL software continues to grow in its sophistication taking advantages of the added functionalities afforded by the advances in mobile platform hardware. Newer software is now offering multimedia features including augmented reality and voice recognition software. Studies have also shown that use of MALL helps foster retention of vocabulary into longer term memory retention. The use of MALL continues to spread in academia. The overall conclusion is that the use of MALL does indeed help in the acquisition of language learning.

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